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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/630,066	07/30/2003	John L. Bennett	60,130-1843;03MRA0304	8199
26096	7590	02/17/2005	EXAMINER	
CARLSON, GASKEY & OLDS, P.C. 400 WEST MAPLE ROAD SUITE 350 BIRMINGHAM, MI 48009			SWENSON, BRIAN L	
			ART UNIT	PAPER NUMBER
			3618	

DATE MAILED: 02/17/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/630,066

Applicant(s)

BENNETT, JOHN L.

Examiner

Brian Swenson

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 July 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 7/30/03.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Specification

1. The abstract of the disclosure is objected to because the "United states Patent Application No. 10/____" found lines 1 and 2 of page 4 should be updated. Correction is required. See MPEP § 608.01(b).

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claim 9 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 9 recites the limitation "the two-speed reduction gear set" in lines 2 and 3. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1 and 5-7 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 5,120,282 issued to Fjallstrom.

Fjallstrom, in Figures 1-2 and respective portions of the specification teach of an axle assembly comprising: a first axle shaft (see left side of axle 8 in Figure 1) defined

substantially along a first axis of rotation; a second axle shaft (see right side of axle 8 in Figure 1) defined substantially along said first axis of rotation; an electric motor (see left motor 10 in Figure 1) defined substantially along a second axis of rotation parallel to said first axis of rotation (Figure 1); a first stage gear reduction (11) driven by said electric motor; a second stage gear reduction (a planetary sun gear 7) driven by said first stage gear reduction; and a third stage gear reduction (6) driven by said second stage gear reduction and connected to planetary carrier (16), said first axle shaft and said second axle shaft driven by said third stage gear reduction Figure 1 and Col. 2, lines 39-58.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 2, 10, 13-15 and 17-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fjallstrom in view of U.S. Patent No. 5,927,417 issued to Brunner et al.

Fjällström, as disclosed above, discloses the claimed invention including teaching of a second motor (see right motor 10 in Figure 1). The two motor's are mounted along the second axis. Fjallstrom does not teach of mounting the second motor along a third axis.

Brunner et al. teach in Figure 1-6 and respective portions of the specification of an axle assembly, including teaching of providing two motor's (4 and 14) for providing torque to a drive axle and placed along a second and third axis, spaced parallel to a first drive axis (10). It would have been obvious to one having ordinary skill in the art at the time of invention to place the second motor (10) taught by Fjällström on a third axis as taught by Brunner et al. One would be motivated to place the second motor along a third axis to reduce the space requirement of the axle assembly, based on Brunner et al., based on Brunner et al.'s disclosure that placing the motor's and gear assemblies on opposite sides reduces the space requirements in the axial direction, see at least Col. 4, lines 19-27. In regards to claim 18, Fjällström teaches of a ring gear (5).

5. Claims 3-4, 8-9, 11-12 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fjällström in view of Brunner et al., and further in view of U.S. Patent No. 1,093,631 issued to Kennedy.

Fjällström as modified by Brunner et al., as disclosed above, discloses the claimed invention except for teaching of a gear train consisting of a drive gear, an idler gear and a driven gear.

Gear trains to provide specific gearing ratios are well known in the mechanical art. Kennedy shows in Figure 1, a three gear train (42) that consists of a drive gear (the topmost gear shown connected to motor 15), driven gear (lowermost gear shown connected to shaft 45) with an idler gear interposed between the two gears, as shown in Figure 1. It would have been obvious to one having ordinary skill in the art at the time of invention to provide a three gear train as taught by Kennedy in the invention taught

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Fjällström as modified by Brunner et al. One would be motivated to provide a gear train, as taught by Kennedy to provide a specific gearing ratio, and would be in accord with Brunner et al.'s teaching (Col. 4, lines 14-18) that its known in the art to provide gear trains consisting of several stages. In regards to claim 4, Fjällström teaches that driven gear (7) is a sun coaxial with the first axis, see at least Col. 2, line 45. In regards to claims 8, 9 and 16 it would also have been obvious to one having ordinary skill in the art at the time of invention to use a single or two-speed reduction gear set, as each are well-known gear sets in the mechanical art. One having ordinary skill in the mechanical arts would be motivated to use either a single or two-speed reduction gear set to provide a proper gear reduction ratio.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

U.S. Patent No. 1,251,749 issued to Cilley teaches of a power train for a vehicle.

U.S. Patent No. 1,810,834 issued to Klein teaches of an electric drive for a vehicle.

U.S. Patent No. 3,799,284 issued to Hender teaches of a drive system with electric motors (12,14) for powering an axle assembly.

U.S. Patent No. 5,947,855 issued to Weiss teaches of a hybrid drive system.

U.S. Patent No. 6,793,600 issued to Hiraiwa teaches of a powertrain for a hybrid vehicle.



Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian Swenson whose telephone number is (703) 305-8163. The examiner can normally be reached on M-F 9-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christopher Ellis can be reached on (703) 305-0168. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

BS 2/15/08
bls

Brian Swenson
Examiner
Art Unit 3618



CHRISTOPHER R. ELLIS
SUPERVISOR, ART UNIT 3618
TECHNICAL CENTER 8000